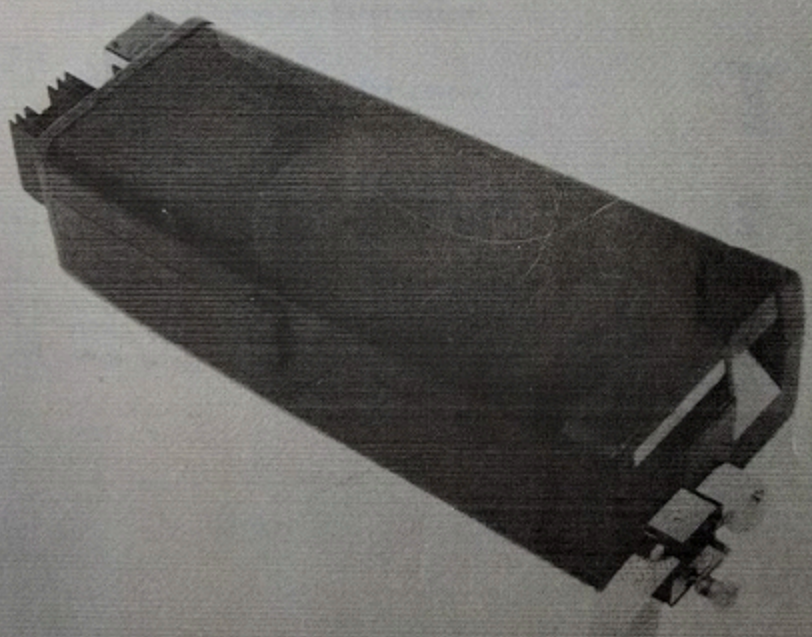
# CHAPTER 3

## PAPER TAPE ATTACHMENT (612 PTA)

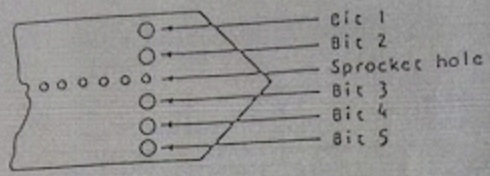


CHAPTER 3

# PAPER TAPE ATTACHMENT (612 PTA)

CONTENTS


| Para. | | |
|---|---|---|
| | INSTALLATION | |
| 1 | Mains Input | |
| 2 | D.C. Input | |
| 3 | Mains Output (Printer) | |
| 4 | PTA Mains Fuse | |
| 6 | Mains Supply Connection | |
| 8 | D.C. Supply Connection | |
| 9 | Loading Paper Tape | |
| 20 | Signal Connections | |
| | OPERATING INSTRUCTIONS | |
| | Controls and Indicators (See Fig.3.7 and Table 3.1) | |
| 21 | Mode Select and Interface Control Switches | |
| 22 | 5-Unit to 8-Unit Conversion (or reverse) | |
| 23 | Operating Procedure | |
| 33 | Cleaning and Routine Maintenance | |
| TABLE | | Page |
| 3.1 | Operating Controls and Indicators | 51 |
| 3.2 | Mode Select Switches | 52 |
| FIGURE | | |
| 3.1 | Hole positions for 5 and 8 unit codes. | 45 |
| 3.2 | View of Rear Panel | 46 |
| 3.3 | Loading the Paper Tape Roll | 47 |
| 3.4 | Loading the Punch | 49 |
| 3.5 | Modem Connection (Plug) | 50 |
| 3.6 | Printers Connection (Socket) | 50 |
| 3.7 | Front Panel Controls | 50 |
| 3.8 | Mode Select and Interface Control Switches | 52 |



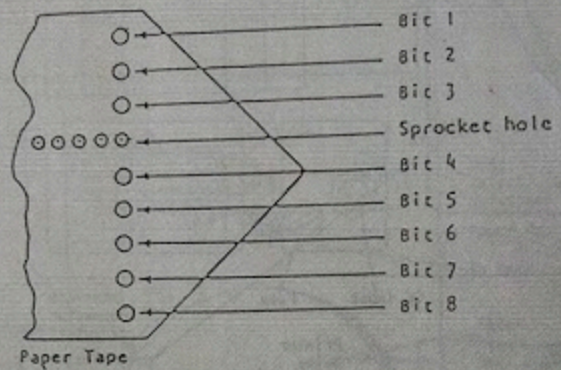




FIG.3.1 Hole Positions for 5 and 8-Unit Codes
(Refer to FIG.2.1 and 2.2 for code combinations)

## INSTALLATION

### Mains Input

1. The PTA has no switch for mains voltage selection, it is despatched from the manufacturers set to operate from any voltage between 200 V and 260 V a.c.. An alternative transformer connection to enable the attachment to operate from a voltage of between 100V to 130 V a.c., provided.

### D.C. Input

2. The PTA may be operated from d.c. sources of between +19 V to +31 V connected to a separate d.c. supply plug on the rear panel. The d.c. supply may be connected in addition to mains and will ensure continuous operation in the event of mains failure.

### Mains Output (Printer)

3. The I/P filter module at the rear panel is fitted with a short mains cable and moulded socket. This socket enables a Trend (610 series) Printer if fitted, to be supplied with mains from the PTA mains cable. The Printer mains is not switched by the PTA ON/OFF switch, or fused by the PTA fuse.

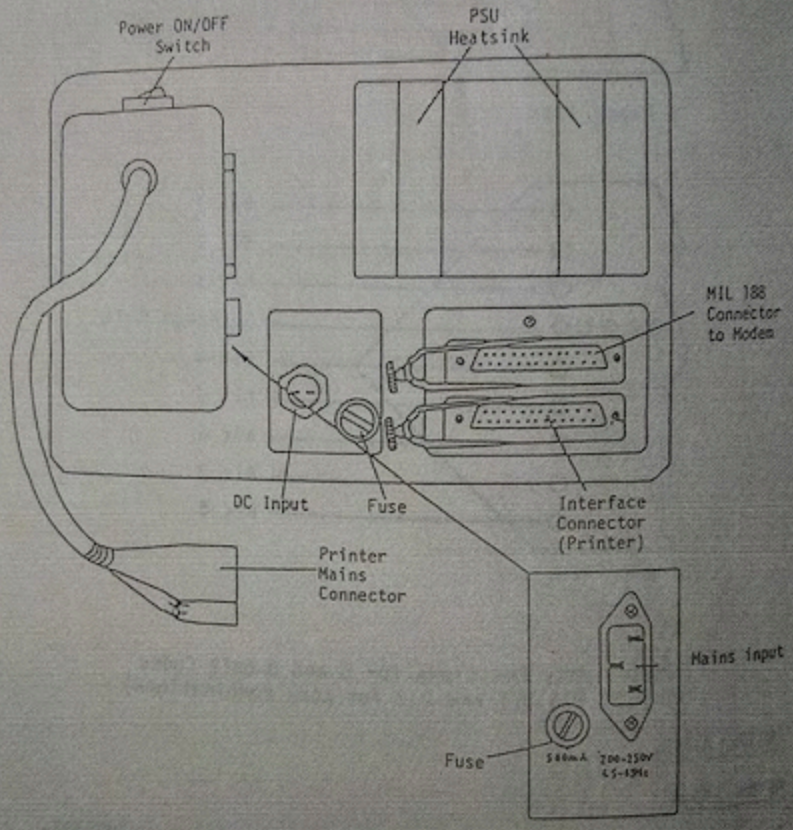



FIG.3.2 View of Rear Panel

PTA Mains Fuse

4. Both the PTA mains I/P filter module fuse and the d.c. supply fuse (Cartridge Types, TDC 123) are situated on the rear panel (refer to Fig.3.3). Switch off, unscrew the mains fuse cap and withdraw the fuse from the holder. Check that the fuse is of of the correct rating:-

500 mA Anti-surge 200 V - 250 V : 1 A Anti-surge 100 V - 120 V

5. Replace fuse, and repeat procedure for d.c. supply fuse; check:-

3.15 A, Anti-surge.

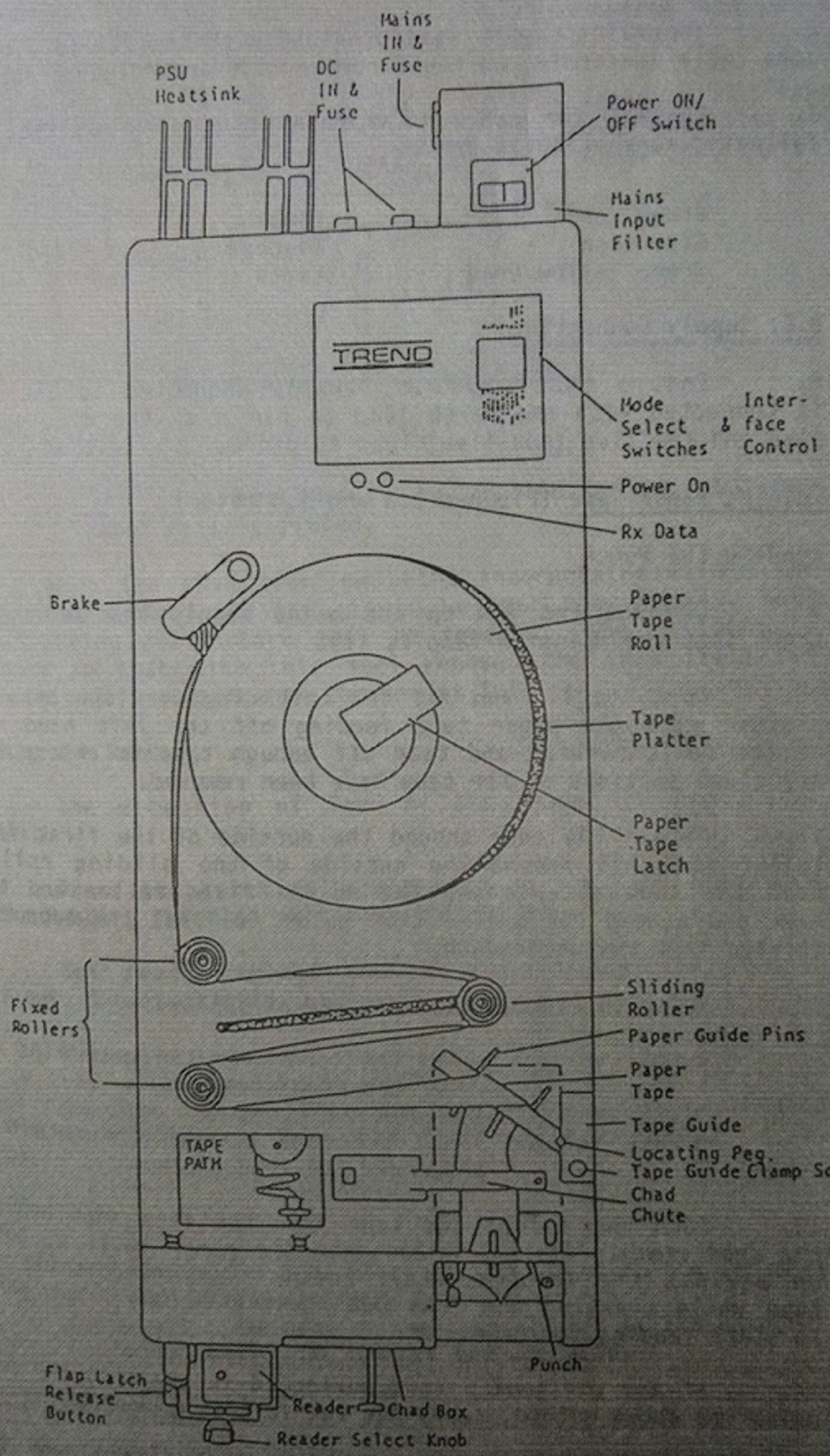



Fig.3.3 Loading the Paper Tape Roll

## Mains Supply Connection

**WARNING... THE PTA MUST BE CONNECTED TO A MAINS SUPPLY OUTLET HAVING A GOOD EARTH CONNECTION.**

6. The mains supply lead provided with the PTA is a three core cable conforming to the European standard colour code.

7. Connect the cable to a mains plug ensuring that the following convention is used:-

| | |
|---|---|
| Brown Lead | Live |
| Blue Lead | Neutral |
| Green/Yellow Lead | Earth |

## D.C. Supply Connection

8. Ensure that any d.c. supply connected to the unit is connected with the earth lead to pin A of the d.c. supply plug and the live (positive) lead to pin B.

## Loading Paper Tape (Figures 3.3 and 3.4 refer)

### Loading the Punch

9. Connect the PTA to the mains supply and switch ON. Check that the Mains ON lamp is lit.

10. Open the lid and fit the roll of paper tape onto the platter with the paper tape feeding off the left hand side of the roll. Unwind and tear off enough tape to ensure that any glued sections of the tape have been removed.

11. Thread the tape around the outside of the first fixed roller and then around the outside of the sliding roller. Feed the tape back around the second fixed roller and then over and around the angled tape guide, so that the tape runs forward from the underneath.

12. Refer to Fig.3.4 and proceed as follows:-

5-Unit Version :Feed the tape over the gate lips and under the chad chute.

8-Unit Version :Feed the tape between the gate lips and under the chad chute.

13. Push the end of the tape into the feed slot beneath the chad chute. Push the tape into the punch until it butts up against the sprocket wheel teeth. Continue pushing the tape while pressing the 'Run Out' switch on the front panel to start feeding the tape.

14. If any difficulty is experienced in starting the feed using the above method, carry out the following procedure:-

a) Loosen the punch lid thumb screw and open the lid.
b) Push the tape through the slot in the punch far enough to cover the sprocket wheel.
c) Close and secure the punch lid.
d) Press the 'Run Out' switch to start feeding the tape.

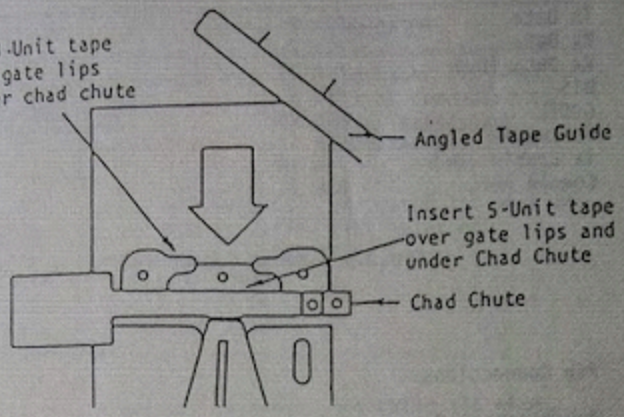



Fig.3.4 - Loading the Punch

Note...

The chad box should be emptied before each new paper roll is fitted.

15. When the chad overflow path, incorporated within the front face of the chad box, is to be used the adhesive seal fitted during manufacture must be removed. The chad box is designed so that with this seal removed the chad falls out in a noticeable stream when the box is full.

Loading the Reader

16. The direction of feed of the Reader is from right to left.

17. Press the latch release button on the left hand side of the Reader, the flap will then spring open.

18. Set reader select knob to correct position, 8-unit pull out, 5-unit push in.

19. Place the tape into the Reader with the first character to be read aligned with the scalloped edge of the stainless steel tape shoe. Ensure that the tape is correctly positioned in the tape guides. Close the flap and ensure that it is securely latched.

Note...

8-Unit : The edge of the tape closest to the sprocket holes should be away from the operator.
5-Unit : The edge of the tape closest to the sprocket holes should be towards the operator.

Signal Connections

20. The PTA line or modem connections are made via Cinch sockets situated on the rear panel of the PTA.

Pin Connections:-

| | |
|---|---|
| Tx Data | - Pin 2 |
| Rx Data | - Pin 3 |
| Rx Data (Ov) | - Pin 11 |
| RTS | - Pin 4 |
| CDSTL | - Pin 20 |
| Tx Enable | - Pin 6 |
| Tx Enable (Ov) | - Pin 18 |
| Common Ret. | - Pin 7 |

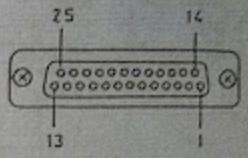



Fig.3.5 - Modem Connection (Plug)

Pin Connections:-

| | |
|---|---|
| Rx (Printer) Output | - Pin 3 |
| Tx (Printer) Input | - Pin 2 |
| RTS (Printer) Input | - Pin 4 |
| Tx Enable (Printer) Output | - Pin 6 |
| Common Ret. | - Pin 7 |
| +5 V | - Pin 24 |
| -5 V | - Pin 25 |

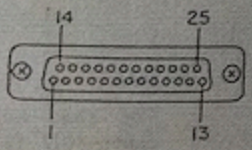



Fig.3.6 - Printer Connection (Socket)

## OPERATING INSTRUCTIONS

### Controls and Indicators

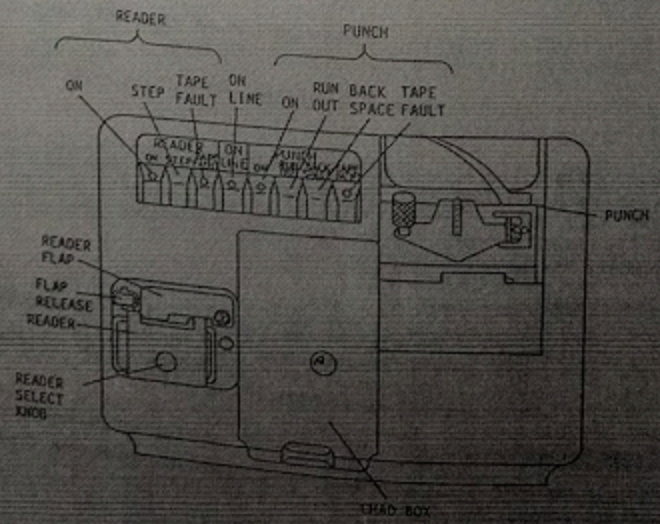
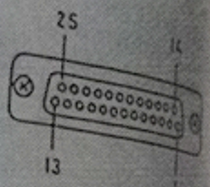
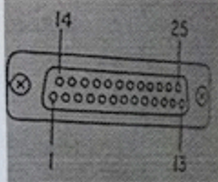



Fig.3.7 - Front Panel Controls



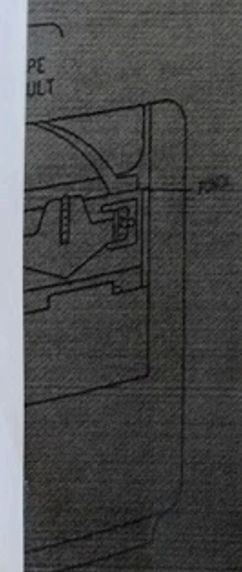

n (Plug)




n (Socket)

Table 3.1 - Operating Controls and Indicators

| CONTROL | FUNCTION | INDICATOR |
|---|---|---|
| MAINS ON/OFF | Connects mains to the PTA (on rear of unit). | Indicator lit when PTA is connected to mains supply and switched on. |
| ON LINE | Press on - press off switch. When ON LINE the PTA is able to transmit and receive data. OFF LINE is the local mode when the PTA will punch what is read, if Punch and Reader switched ON. | Indicator lit when ON LINE selected. |
| READER ON | Press on - press off switch. Switches the Reader On or Off. | Indicator lit when Reader is switched on |
| STEP | Momentary press on switch. Each depression steps one character on the tape through the Reader, when Reader switched off. | |
| READER TAPE FAULT | Momentary press switch operated to reser the fault indication after clearance of a Reader fault condition, i.e. no tape or tape jammed. | Indicator lit when Reader tape fault is detected, i.e. no tape or tape jammed. Indicator also lit when Reader flap open but automatically reset when flap closed. |
| PUNCH ON | Press on - press off switch Switches the Punch on or off | Indicator lit when Punch is switched on. |
| RUN OUT | Momentary press on switch. Causes Punch to feed, at maximum punch speed, blank tape with punched sprocket holes, for as long as switch depressed. | |
| TAPE FAULT | Momentary press switch operated to reset the fault indication after clearance of a punch fault condition. | Indicator lit when Punch fault is detected. |
| BACK SPACE | Momentary press switch each depression steps back one character on the punch tape. | |



## Mode Select and Interface Control Switches

21. The control switches used to set the mode of operation are located on the interface board and are accessible through an aperture in the tape platform, within the unit as shown in Fig.3.8.

Table 3.2 Mode Select and Interface Control Switches

| SWITCH A | | FUNCTION WHEN CLOSED |
|---|---|---|
| 1 | | 300 |
| 2 | | 200 |
| 3 | | 150 |
| 4 | BAUD RATE | 110 — Each switch selects transmission speed indicated. |
| 5 | | 100 |
| 6 | | 75 |
| 7 | | 50 |
| 8 | TELEX-NORMAL | Set to TELEX, the PTA is 'Off Line' and received data is printed but not punched. |
| 9 | PRINTER | Set to OFF, isolates PTA from associated Printer (Data only) |
| 0 | 8 UNIT-5 UNIT | Set to 8 Unit Code (when open 5 unit code) |
| **SWITCH B** | | |
| 1 | RX NEG MARK | Negative receive Mark condition |
| 2 | TX ENABLE NEG REL | Negative 'Tx Enable' release |
| 3 | TX NEG MARK | Negative transmit mark condition |
| 4 | CDSTL POS ON | Positive CDSTL on condition |
| 5 | RTS POS ON | Positive RTS on condition |
| 6 | TX ENABLE CONT REL | Continuous release of characters (when open selects pulsed release) |
| 7 | ONE STOP | One stop bit (when open selects 1.5 stop bits in 5 unit code or 2 stop bits in 8 unit code). |
| 8 | AUTO-MANUAL | Set to AUTO, the punch and reader are switched remotely by control codes. (when set to MANUAL, the punch and reader are switched ON/OFF at front panel) |
| 9 | HD-FD | Set to Half Duplex, the punch will make a local record of transmitted data. (when open, Full Duplex the punch will only record, and printer print, the received message when 'on line'). |
| 0 | NOT USED | |

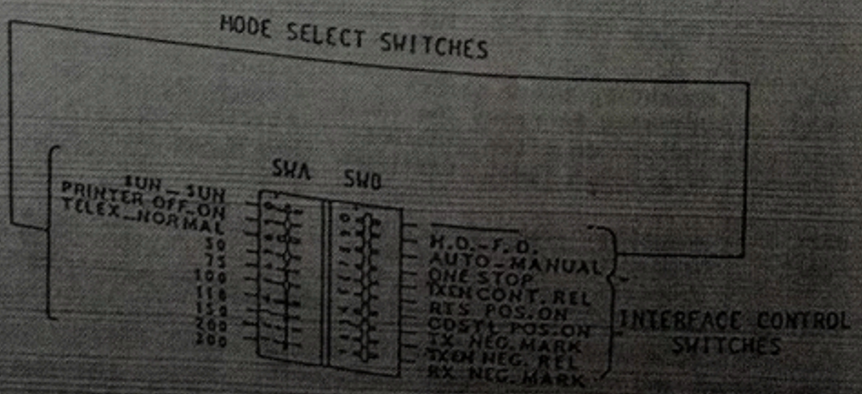



Fig.3.8 Mode Select and Interface Control Switches

5-Unit to 8-Unit Conversion (or reverse)

22. To convert the PTA from 5 to 8, or from 8 to 5-unit working, the following changes are to be made:

22.1 Set mode select switch SWA:0, to 5-unit or 8-unit as required (see Fig.3.8).

22.2 Set reader select knob, to correct position, 8-unit pull out, 5-unit push in (See Fig.3.7).

22.3 Slacken tape guide clamp screw and withdraw tape guide. Refit tape guide with appropriate pins pointing to rear of machine, 8-unit wide pin space, 5-unit narrow pin space. Ensure tape guide locating peg is in position and retighten clamp screw (Fig.3.3).

22.4 Replace tape with correct type.

Operating Procedure

23. Connect the PTA to the mains supply and line or modem as detailed in paras. 7 and 20 and switch ON.

24. If the PTA is to be operated in conjunction with a Trend (615 ESR) Printer, refer to Chapter 4 (USING THE 612 PTA WITH THE 615 ESR).

25. Refer to Fig.3.8. Select the required mode of operation of the PTA using the Mode Select Switches on the interface board, accessible through the tape platform.

Auto Switching Mode

26. When set to AUTO, the Punch and Reader are remotely switched ON/OFF by received control codes, if the PTA is 'On Line'.

8-Unit : Control Code DC1 - Reader ON
Control Code DC2 - Punch ON
Control Code DC3 - Reader OFF
Control Code DC4 - Punch OFF

5-Unit : Letter shift followed by:-
Control Sequence SSSS - Reader ON
Control Sequence CCCC - Punch ON
Control Sequence FFFF - Both OFF

'On Line' Mode

27. In the 'Full Duplex' mode the Punch will only operate for a received message.

28. In the 'Half Duplex' mode the Punch will produce a local record of transmitted data from the Reader or Printer keyboard.

Note...

The Printer Keyboard is only operational if the Reader is switched OFF.

'Off Line' Mode

29. When switched 'Off Line', the ON LINE indicator is extinguished and the PTA is in the Local Mode. The Punch will operate with data from either the Reader or the Printer keyboard so that a tape may be punched for later transmission.

30. Data is not transmitted to line in the 'Off Line' Mode. Data is not received from line in the 'Off Line' Mode, unless the 'Telex' mode of operation is selected.

Fault Conditions

31. The signal RTS is set low to the modem when the following conditions are present:-

PTA 'Off Line'.

Reader Tape Fault - when Reader switched ON and PTA 'On Line'.

Punch Tape Fault - when Punch switched ON and PTA 'On Line'.

RTS from Printer (if connected) is low and PTA 'On Line'.

Tx Enable Operation

32. For combined PTA/Printer working, data from paper tape takes precedence over that from the keyboard store if the reader is switched on.

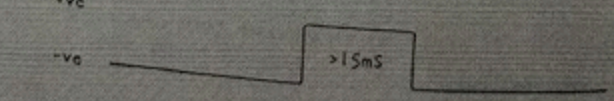
32.1 Continuous Release
Switch SWB6 Interface Board closed.

32.1.1 Switch SWB2 Interface Board open.
The PTA/Printer combination will release characters when pin 6 (Tx Enable) is +ve with respect to (wrt) pin 18. A -ve condition on pin 6 will inhibit the transmission of data.

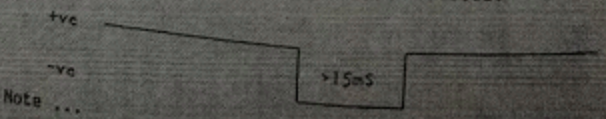
32.1.2 Switch SWB2 Interface Board closed.
Pin 6 +ve wrt pin 18 - Transmission inhibited.
Pin 6 -ve wrt pin 18 - PTA/Printer will release.

32.2 Pulsed Character Release
Switch SWB6 Interface Board open.
Pulses must be at least 15 ms duration.

32.2.1 Switch SWB2 Interface Board open.
Character release condition pin 6 wrt pin 18.




32.2.2 Switch SWB Interface board closed.




Note ...

If a release pulse is received when the reader is off it will be stored and cause a character to be released when the reader is switched on. Similarly if the reader is switched off between release pulses, the next release pulse will transmit a character.

## Cleaning and Routine Operator Maintenance

33. The cover may be wiped clean with a soft linen cloth. Stubborn marks may be removed by using a slightly damp cleaning cloth.

Do NOT use Metal cleaner or furniture polish.

Each time a new paper tape roll is fitted, the chad box MUST be emptied.

34. Periodically clean the tape reader windows with a soft cloth and remove any accumulated dust with a soft squirrel hair brush.